WE CLAIM:

1. A novel device for separating plasma from a whole blood sample on a treated membrane comprising lateral flow chromatographic assay microporous membrane having a sample application zone, a separation zone, and an analysis zone, and an erythrocyte binding agent added to the membrane in an amount sufficient to bind any erythrocytes present in the sample.

2. The device of Claim 1 wherein the membrane material consists of one of the following group: cellulose acetate, nitrocellulose, nylons, polyethersulfones, polypropylene, polyvinylidene flouride, and combinations thereof.

3. The device of Claim 1 wherein the membrane has a porosity of about 1 micron to about 20 microns.

4. The device of Claim 1 wherein the membrane is supported.

5. The device of Claim 1 wherein the erythrocyte binding agent is added to one of the following membrane zones, the sample application zone and the separation zone.

6. The device of Claim 1 wherein the erythrocyte binding agent is added to the membrane in one of the following geometries, a longitudinal gradient and a transverse row.

7. The device of Claim 1 wherein the erythrocyte binding agent is an anti-erythrocyte antibody.

8. The device of Claim 1 wherein the erythrocyte binding agent is a lectin that binds to sugar residues on the membranes of the red blood cells.

9. The device of Claim 1 wherein a wick is placed at the membrane distal to a sample application zone.

10. The device of Claim 1 wherein the device also comprises a sample application pad added to the sample application zone of the membrane.

11. The device of Claim 7 wherein the sample application pad also comprises a moisture-retaining agent.

12. A method for separating plasma from a whole blood sample on a treated membrane comprising:

a) applying a whole blood sample to a microporous lateral flow chromatographic assay membrane having a sample application zone, a separation zone, and an analysis zone, and an erythrocyte binding agent added to the membrane in an amount sufficient to bind any erythrocytes present in the sample;

b) allowing sufficient time for any erythrocytes in the sample to bind to the binding agent, thereby separating plasma from the sample;

c) further allowing sufficient time for the sample plasma to migrate through the separation zone and into the analysis zone; and

d) analyzing the migrated plasma to determine the presence or amount of an analyte.

13. The method of Claim 12 wherein the membrane material consists of one of the following group: cellulose acetate, nitrocellulose, nylons, polyethersulfones, polypropylene, polyvinylidene fluoride and combinations thereof.

14. The method of Claim 12 wherein the membrane has a porosity of about 1 micron to about 20 microns.

15. The method of Claim 12 wherein the membrane is supported.

16. The method of Claim 12 wherein the erythrocyte binding agent is added to one of the following membrane zones, the sample application zone and the separation zone.

17. The method of Claim 12 wherein the erythrocyte binding agent is added to the membrane in one of the following geometries, a longitudinal gradient and a transverse row.

18. The method of Claim 12 wherein the erythrocyte binding agent is an anti-erythrocyte antibody.

19. The method device of Claim 12 wherein the erythrocyte binding agent is a lectin that binds to sugar residues on the membranes of the red blood cells.

20. The method device of Claim 12 wherein a wick is placed at the membrane distal to a sample application zone.

21. The method of Claim 12 wherein the device also comprises a sample application pad added to the sample application zone of the membrane.

22. The method of Claim 21 wherein the sample application pad also comprises a moisture-retaining agent.